

REMARKS

The Applicant has received and reviewed the Office Action dated January 10, 2005 wherein the Office objected to the drawings; objected to the specification due to various informalities; objected to claims 3-10, 12-17, and 20 due to various informalities; rejected claims 2-10, 16-17, and 19-21 under 35 U.S.C. 112, second paragraph, for indefiniteness; rejected claims 1 and 22-23 under 35 U.S.C. 102(b) as being anticipated by the reference of Dunn et al. (U.S. Patent No. 5,542,503); rejected claims 2 and 11-21 under 35 U.S.C. 103(a) as being unpatentable over the reference of Dunn et al.; rejected claims 3-10 under 35 U.S.C. 103(a) as being unpatentable over the reference of Dunn et al. in view of the reference of Baumgartner (U.S. Patent No. 6,626,273).

Objection to the Drawings

The drawings stand objected to as failing to comply with Rule 37 CFR 1.84(p)(5) because they do not include the reference signs “BA” and “3D.” In regards to the Office’s aforementioned rejection, the Applicant notes that reference signs “BA” and “3D” were typographical errors. In view of the aforementioned, the Applicant has amended the specification by replacing reference sign “BA” with reference sign “8A” and replaced reference sign “3D” with reference sign “8B.”

In view of the above amendments to the specification, the Applicant respectfully request that the Office’s objections to the Applicant’s drawings be withdrawn.

Objection to the Specification

The specification of the present application stands objected to due to informalities. More specifically, the Office objected to the abstract due to improper language and format and objected to the disclosure due to a lack of description in the Summary of the Invention section of the disclosure.

In response to the Office's above objections, the Applicant has amended the abstract to per the Office's suggestion. The Applicant has also amended the disclosure to include a description in the Summary of the Invention section of the disclosure. It is for the aforementioned that the Applicant respectfully request that the Office's objection to the disclosure be withdrawn.

Objection to the Claims

Applicant's claims 3-10, 12-17, and 20 stand objected to due to various informalities. In response to the Office's aforementioned objection to claims 3-10, 12-17, and 20, the Applicant has amended claims 3-10, 12-17, and 20 per the Office's suggestions in order to remove the various informalities. It is for the aforementioned that the Applicant respectfully request that the Office's objection to Applicant's claims 3-10, 12-17, and 20 be withdrawn.

**Rejection of the Claims under
35 U.S.C. 112, Second Paragraph**

Applicant's claims 2-10, 16-17, and 19-21 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention. More specifically, the Office notes that there is insufficient antecedent basis for the limitation “said hat” in claim 2; that it is unclear which pillars applicant is referring to in claims 6 and 10; and that there is insufficient antecedent basis for the limitation “said intermediate radially aligned inner pillar” in claim 16.

In response to the Office’s above rejection of Applicant’s claims 2-10, 16-17, and 19-21, the Applicant has amended the aforementioned claims either directly or indirectly to provide for sufficient antecedent basis for the limitation in the claims and to further clarify the subject matter being claimed in the claims.

It is for the above reasons that the Applicant respectfully request that the Office’s above rejections of Applicant’s claims 2-10, 16-17, and 19-21 under 35 U.S.C. 112, second paragraph be withdrawn.

Rejection under 35 U.S.C. 102(b) and 103(a)

Applicant’s claims 1 and 22-23 stand rejected under 35 U.S.C. 102(b) as being anticipated by the reference of Dunn et al. (U.S. Patent No. 5,542,503.) Applicant’s claims 2 and 11-21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the reference of Dunn et al. Applicant’s claims 3-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the reference of Dunn et al. in view of the reference of Baumgartner (U.S. Patent No. 6,626,273).

In regards to the Office's above rejection to Applicant's independent claim 1, the Applicant has amended independent claim 1 to more clearly point out the subject matter being claimed. More specifically, independent claim 1 has been amended to call for:

"...said pairs of intermediate pillars positioned to support said inboard and outboard brake discs against mechanical distortion from application of said brake pads during heavy braking;"

Applicant's amended independent claim 1 also calls for:

"... said inboard disc and said outboard disc maintained in a parallel spaced apart configuration by pillars with channels defined between said pillars whereby in use of the rotor air is drawn in through vent means and then radially outwardly through said channels as the rotor turns..."

It is submitted that the above feature, as described in the Applicant's disclosure, enable the pairs of intermediate pillars to provide support against mechanical distortion of the brake discs due to heavy braking by providing a concentration of connecting mass in the central band of the brake discs where pressure from the brake pads is a maximum while simultaneously providing the angled channel between the pair of pillars to allow air to flow the pair of pillars so as to dissipate the resultant heat to prevent thermal distortion of the discs. (See for example page 8, lines 7-18 of the Applicant's disclosure.)

In further support of the above, the Applicant has enclosed a copy of an air flow analysis carried out on behalf of the Applicant using MSC.Software, an analysis tool well known to the automotive industry. As indicated on the enclosed air flow analysis diagram, the pair of pillars lie substantially in the region of application of the brake pads, identified by

reference letter "A", thus providing the inter-disc support to prevent mechanical distortion. The dark concentration of air flow lines through the channels between the pillars, identified by reference letter "B", are indicative of the effectiveness of this arrangement of pillars in attracting or guiding the heat dissipating air flow.

The Applicant respectfully submits that the reference of Dunn et al. does not teach a configuration of pairs of intermediate pillars in the central area of the brake discs so as to support the discs against mechanical distortion as called for in Applicant's amended independent claim 1. The Applicant further submits that the reference of Dunn et al. also does not teach an angle air flow passage between the pair of pillars so disposed to aid in thermal dissipation as called for in Applicant's amended independent claim 1.

It is for the above reasons that the Applicant respectfully submits that Applicant's independent claim 1, as amended, is allowable over the reference Dunn et al.

In regards to Applicant's dependent claims 23-24, Applicant's dependent claims 23-24 have been canceled from the application.

In regards to Applicant's claims 2-22, Applicant's dependent claims 2-22 each depend on Applicant's amended independent claim 1. Since Applicant's amended independent claim 1 is allowable for the reasons given above, Applicant's dependent claims 2-22 should now also be allowable.

In view of the above, it is respectfully submitted that the application is in condition for allowance. Allowance of claims 1-22, as amended, is respectfully requested. Applicant has enclosed a version of the amendment showing changes made with this response.

It is noted that a response to the Office Action for the present case was due on April 10, 2005. In view of the view of the aforementioned, Applicant has also enclosed a petition for a one (1) month time extension along with a credit card authorization form in payment of the one (1) month time extension with this response. Please charge any deficiencies in fees to deposit account 10-0210.

Respectfully submitted,

JACOBSON AND JOHNSON

By



Carl L. Johnson, Reg. No. 24,273
Attorneys for Applicant
Suite 285
One West Water Street
St. Paul, Minnesota 55107-2080
Telephone: 651-222-3775
Fax: 651-222-3776

CLJ/cj
Enclosure